

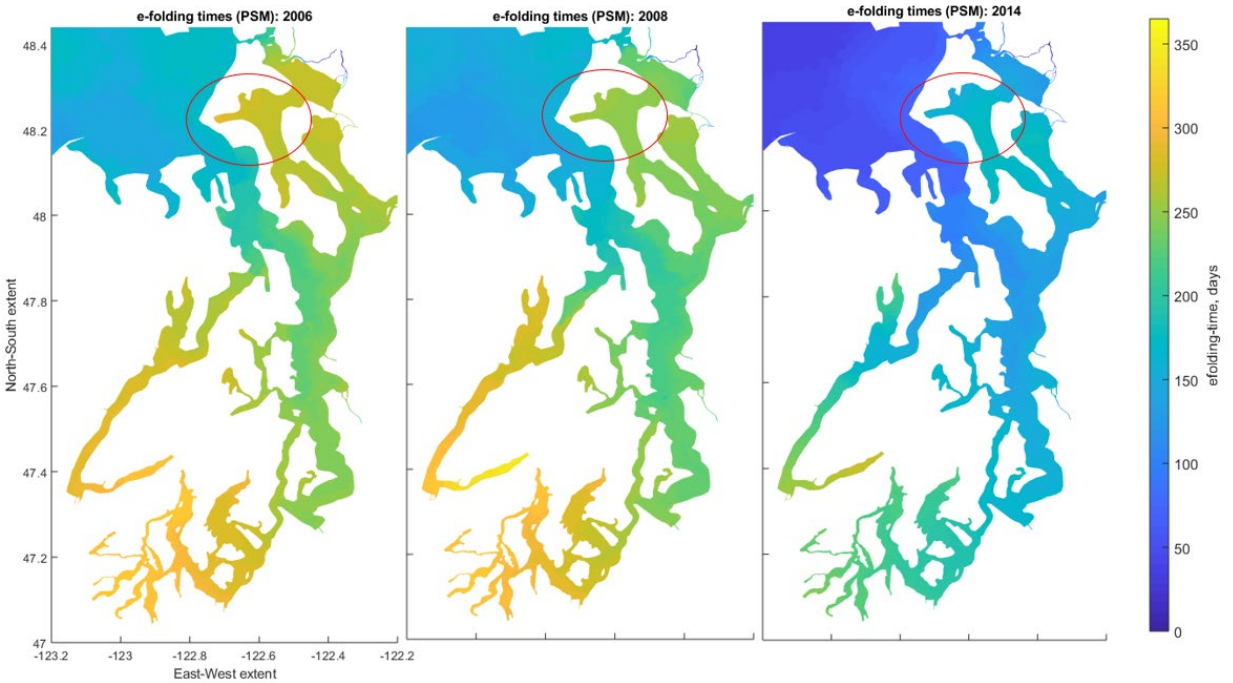
From: [Ahmed, Anise \(ECY\)](#)
To: [Cope, Ben](#)
Cc: [Labiosa, Rochelle](#)
Subject: RE: Salish Sea residence times - shapefile or raster of model output?
Date: Monday, October 29, 2018 5:12:11 PM
Attachments: [image001.png](#)

Hi Ben and Rochelle,
Sorry it took me long to get back to you. I was contemplating sending you plan view maps of e-folding times for the whole Salish Sea, and that would take time. But, talking with Rochelle made it easier for me as I have some maps that cover only Puget sound and it seems that would suffice. So here it goes. As it turn out Bellingham Bay is not included in these maps. Sorry, Rochelle I thought I had Bellingham Bay on the map.
Please let me know if you have any questions

Anise Ahmed, PhD, PE
Modeling and Information Support Unit
Environmental Assessment Program
Department of Ecology
300 Desmond Dr SE
Lacey, WA 98503-7710
Phone: (360) 407-6767
Fax: (360) 407-6884
email: aahm461@ecy.wa.gov

Annual average flows, m ³ /s			
River	2006	2008	2014
Fraser	2364	2750	3185
Skagit	548	515	669
Stillaguamish	135	122	149
Nisqually	62	59	61
Skokomish	57	30	39

PSM: residence times



From: Cope, Ben [<mailto:Cope.Ben@epa.gov>]
Sent: Friday, October 12, 2018 3:50 PM
To: Ahmed, Anise (ECY) <AAHM461@ECY.WA.GOV>
Cc: Labiosa, Rochelle <labiosa.rochelle@epa.gov>
Subject: FW: Salish Sea residence times - shapefile or raster of model output?

Hi Anise –
I recall you were evaluating residence time using SSM. Please see a question from my colleague Rochelle Labiosa below. Do you think you might have some info that might fit this need? Thanks. -
BC
Ben Cope, Environmental Engineer
Office of Environmental Review and Assessment
EPA Region 10
206-553-1442

From: Labiosa, Rochelle
Sent: Friday, October 12, 2018 3:20 PM
To: Cope, Ben <Cope.Ben@epa.gov>
Subject: Salish Sea residence times - shapefile or raster of model output?

Hi Ben,
We are working on a nutrients project with Lummi Nation, and one question is the representativeness of data from the nation's waters v. other marine sites. We are hoping to be able to access a shapefile or raster of the residence time estimate data for the Salish Sea model - if it exists? Do you know if ecology has it in such a format?
Thanks so much, Rochelle
Rochelle Labiosa, Ph.D.
Office of Water and Watersheds

US EPA, Region 10
1200 Sixth Avenue, Suite 155, MC: OWW-191
Seattle, WA 98101-3140
Ph: 206.553.1172